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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/076,946

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Gary D. Shives

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10/27/2003

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EXAMINER

SAINT SURIN, JACQUES M

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/076,946

Applicant(s)

SHIVES ET AL.

Examiner

Jacques M Saint-Surin

Art Unit

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-- Th MAILING DATE of this communication appears on th cover sheet with the correspond nce address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09/03/02, 2/14/02.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because reference numbers in Figs. 1-10 must be labeled. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 2 is objected to because of the following informalities: typographical errors. The term "ram" should be deleted and replaced with --arm—to be consistent with claim 1. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

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Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Chennell et al. (US Patent 6,484,583).

Regarding claim 1, Chennell et al. ('583) discloses an apparatus for inspection (ultrasonic inspection apparatus 40, see: Fig. 3) of a cylindrical carbon article, comprising: a yoke (yoke 42, see: Fig. 3 and col. 3, line 49) including first and second spaced branches (first arm 46 and second arm 48, see: col. 3, lines 49-52); a robotic arm assembly (retractor 64, see: col. 4, line 7), having the yoke (42) attached thereto, the robotic arm assembly (64) being movable between an operating position wherein the yoke is received about the article, and a withdrawn position wherein the yoke is removed from the article; and a pair of transducers (50 and 52), attached to the first and second branches (46 and 48) of the yoke (42), respectively, and arranged to operatively interact with the article at circumferentially spaced positions about the article when the robotic arm assembly is in its operating position (the positioning step 94 is accomplished by placing one of the arms, here the second arm 48, adjacent to the interior surface 28, the other of the arms, here the first arm 46, adjacent to the exterior surface 30, and the base 44 extending through the access opening 26, numeral 96; in cooperation with this placing step 96, the retractor 64 is operated as necessary, numeral 98, to retract the second ultrasonic transducer 52 so that the two ultrasonic transducers 50, 52 may be moved laterally across the exterior surface 30 and the interior surface 28, respectively (col. 4, lines 50-60).

Regarding claim 2, Chennell et al. ('583) discloses a first ultrasonic transducer 50 is affixed to the first arm 46; a second ultrasonic transducer 52 is in facing relation to the first ultrasonic transducer 50, a spring mount 54 attaches the second ultrasonic transducer 52 to the second arm 48 so that the second ultrasonic transducer 52 is in facing relationship to the first ultrasonic transducer 50 (col. 3, lines 59-64).

Regarding claim 3, Chennell et al. ('583) discloses the retractor 64 is operated as necessary, numeral 98, to retract the second ultrasonic transducer 52 so that the two ultrasonic transducers 50, 52 may be moved laterally across the exterior surface 30 and the interior surface 28, respectively; when the proper positioning is reached, the retractor 64 is released, numeral 100, so that the two ultrasonic transducers 50, 52 are in a facing relation to each other with the wall 24, formed of the piece of composite material, captured therebetween, see: col. 4, lines 55-64.

Regarding claim 5, Chennell et al. ('583) discloses the retractor 64 is preferably a manual retractor in the form of a lever arm 66 pivotably attached to the second arm 48 at a pivot point 67, see: col. 4, lines 8-10.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 4, 11-14 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chennell et al. (US Patent 6,484,583) in view of Collins et al. (US Patent 3,780,570).

These claims differ from Chennell et al. by reciting each of the transducers is a roller transducer which is rotatable about an axis generally parallel to a length of the article. Collins ('570) discloses the conveyor 20 normally includes a pair of side rails 22 and a plurality of rollers 24 that extend between the side rails 22; these rollers 24 define a moving surface for supporting the panels 12 and may be free running or power driven whereby the panel 12 can be carried along the conveyor 20 at a high rate of speed (see: col. 3, lines 12-19). It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Chennell the rollers of Collins because the rollers are adapted to roll across the surface of the article thereby providing a reliable inspection.

7. Claims 6-10 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chennell et al. (US Patent 6,484,583) in view of Mizzi (US Patent 5,770,913).

These claims differ from Chennell et al. by reciting a master robot and a slave robot. Mizzi discloses Fig. 16 shows a method for autonomous robots A, B and C are robots on work area 110 where M is the master station S1 and S2 represent two slave stations (see: col. 11, lines 11-14. Mizzi further discloses a yoke member 2 (col. 6, line 5) and vibratory transducers 17 and 19 (see: Fig. 4 and col. 7, lines 45-46. It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Chennell et al. the techniques of Mizzi because it would provide a master station and a slave station for performing the same service for one or more free ranging robots which have no inherent inertial reference thereby making the above combination very effective.

***Allowable Subject Matter***

8. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

DeVault (US Patent 5,857,534) discloses a robotic inspection apparatus and method.

Young et al. (US Patent 5,031,458) discloses a portable ultrasonic inspection probe for laminated structures.

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Everett et al. (US Patent 6,459,748) discloses floating ultrasonic testing and effector for a robotic arm.

Hall et al. (US Patent 5,719,337) discloses in plane ultrasonic velocity measurement of longitudinally and shear waves in the machine direction with transducers in rotating wheels.


Erickson et al. (US Patent 6,460,414) discloses automated acoustic micro imaging system and method.


Bricker et al. (US Patent 4,312,230) discloses a method and apparatus for pipe inspection.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M Saint-Surin whose telephone number is (703) 308-3698. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

  
Jacques M. Saint-Surin  
October 15, 2003

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
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